PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference	FOR FURTHER ACTION
see form PCT/ISA/220	See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/RU2005/000557	11.11.2005	

International Patent Classification (IPC) or both national classification and IPC
INV. G06F9/44

Applicant
INTEL CORPORATION

1. This opinion contains indications relating to the following items:

   ☒ Box No. I   Basis of the opinion

   ☒ Box No. II   Priority

   ☐ Box No. III   Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

   ☐ Box No. IV   Lack of unity of invention

   ☒ Box No. V   Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

   ☒ Box No. VI   Certain documents cited

   ☐ Box No. VII   Certain defects in the international application

   ☒ Box No. VIII   Certain observations on the international application

2. **FURTHER ACTION**

   If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notifed the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

   If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

   For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:	Date of completion of this opinion	Authorized Officer
European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	see form PCT/ISA/210	DEL CASTILLO, G Telephone No. +49 89 2399-5996

Form (PCT/ISA/237) (Cover Sheet) (April 2005)

Box No. I   Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:

    ☒   the international application in the language in which it was filed

    ☐   a translation of the international application into   , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

    a. type of material:

    ☐   a sequence listing

    ☐   table(s) related to the sequence listing

    b. format of material:

    ☐   on paper

    ☐   in electronic form

    c. time of filing/furnishing:

    ☐   contained in the international application as filed.

    ☐   filed together with the international application in electronic form.

    ☐   furnished subsequently to this Authority for the purposes of search.

3. ☐   In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

Box No. II   Priority

1. ☒   The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.

2. ☐   This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V   Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-25
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-25
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-25
	No:	Claims	

2. Citations and explanations

   see separate sheet

Box No. VI   Certain documents cited

1. Certain published documents (Rules 43*bis*.1 and 70.10)

   and / or

2. Non-written disclosures (Rules 43*bis*.1 and 70.9)

   see form 210

Box No. VIII   Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

   see separate sheet

Re Item V

1   Documents

Reference is made to the following documents:

D1:   US 5 511 185 A (WEINBAUM DAVID [IL] ET AL) 23 April 1996 (1996-04-23)

2   Novelty and inventive step of the independent claims

2.1   Some terms and expressions occurring in claim 1 are **not clear** (see objections concerning lack of clarity under Item VIII below). For the purpose of assessing novelty and inventive step, these terms and expressions have been **interpreted**, whenever possible, in the light of the description, in the manner indicated under Item VIII below. The feature of "checking dynamic conditions", for which no reasonable interpretation could be found in the description, has been **ignored**.

2.2   **Document D1**, which is considered to represent the **closest prior art** to claim 1, discloses a computer-implemented method for automated testing of a computer program which, like the present invention, is able to detect differences between the expected outputs and actual outputs by comparing recorded screen images with actual screen images generated by the program being tested.

Furthermore, **D1 discloses** a feature of tracking and replicating the operation of a cursor manipulation device, which includes correcting, if necessary, the location of an icon representing the cursor during the replication phase by searching for the icon in the screen image (D1, columns 20-21), which corresponds to the feature of "recalculating old actions" in claim 1. This feature improves the precision of the replication of the motion of the icon on the screen, which otherwise could be unreliable due to non-deterministic loss of device events (cf. D1, column 1, line 65 - column 2, line 3), so that the icon returns to same screen location.

The essential **difference** between the subject-matter of claim 1 consists in the features of detecting an active object in the recorded image, e.g. a button, and

searching for a corresponding object in the playback image which is then used to recalculate the coordinates of a mouse selection action (e.g. the pressing of the button).

This combination of features solves the technical **problem** of improving the capture-playback testing method from the closest prior art D1 to overcome variations in the captured images, such as those due to a different layout of the visual elements (cf. description, page 8, line 27 - page 9, line 3).

The claimed solution is **new** and is considered to involve an **inventive step**.

2.3 As independent **claims 10 and 18** include features which correspond to the features of claim 1, the remarks above concerning novelty and inventive step of claim 1 apply accordingly to claims 10 and 18 as well.

Re Item VIII

3   **Lack of clarity of the independent claims**

3.1 **Claim 1** includes some terms and expressions which are not well-defined and generally known in the technical field of graphical user interfaces or computers in general. In some cases their meaning is defined in or can be derived from the description. In particular, unclear terms and expressions are the following:

(1)   "hypothesis" - according to the description (page 17, lines 12-14), this term is used in the present application to denote "a contour on the playback image which corresponds to a contour on the saved (recorded) image at a point in time";

(2)   "active object" - this term appears to correspond to the "object of action" introduced in the description at page 8, lines 8-14, which denotes an object that a user has applied an action to;

(3)　"recalculating old actions" - according to the description (page 10, line 24 - page 11, line 3, and page 24, lines 3-14), this expression relates to the recalculation of mouse click coordinates in the playback image which is necessary due to the fact that the position of an object selected via the mouse, e.g. a button, in the recorded image is in general different from the position of the corresponding object in the playback image;

(4)　"checking dynamic conditions" - the meaning of the term "dynamic conditions" as well as of the expression "checking dynamic conditions" is not clear even if the description is taken into consideration, as the description, besides the the remark that dynamic conditions could be time or also other conditions (page 24, lines 18-21), does not provide any definition or reasonable explanation.

It is noticed that, although different and possibly broader interpretations than the ones identified above could be imagined for the unclear terms and expressions (1)-(3) above, there is no support in the description for such interpretations.

3.2　The objections of lack of clarity raised above for claim 1 apply accordingly to independent **claims 10 and 18**, as these claims include features which correspond to features of claim 1 and are defined using the same unclear terms and expressions.